

Ilyes Jaouedi

PHD CANDIDATE IN SIGNAL PROCESSING & AI

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PhD candidate in signal processing and AI at L2S, CentraleSupélec / CNRS / Université Paris-Saclay. Research focused on camera-radar sensor fusion via optimal transport theory for Advanced Driver Assistance Systems, in industrial collaboration with FORVIA.

Work Experience

PhD Candidate — Sensor Fusion for ADAS

L2S, CentraleSupélec / CNRS / Université Paris-Saclay

October 2024 – Present

Gif-sur-Yvette, France

- Researching camera-radar fusion via optimal transport theory for ADAS perception.
- Developing OT-based cross-modal alignment methods for 4D radar and camera modalities.
- Industrial collaboration with FORVIA.

Computer Vision Researcher — Internship

CAOR, Mines Paris – PSL

February 2024 – July 2024

Paris, France

- Developed a model for automatic extraction and reconstruction of vehicle trajectories from traffic camera video streams fused with LiDAR data.
- Built 3D reconstruction and tracking pipelines for urban traffic scene analysis.

Computer Vision Engineer — Internship

Enova Robotics

Summer 2023

Sousse, Tunisia

- Implemented LiDAR-camera sensor fusion models using PV-RCNN and BiProDet architectures for 3D object detection.
- Benchmarked and fine-tuned multi-modal perception pipelines on custom robotic datasets.

Education

PhD in Signal Processing & AI

Université Paris-Saclay

2024 – Present

Gif-sur-Yvette, France

- Research topic: “Camera-Radar Fusion via Optimal Transport for Robust ADAS Perception.”
- Supervisors: Gilles Chardon, José Picheral (L2S, Signal & Statistics Group, GME).

Engineering Degree — Signal Processing & Systems (Diplôme d'ingénieur polyvalent)

École Polytechnique de Tunisie

2021 – 2024

La Marsa, Tunisia

- Speciality: Signal processing, machine learning, computer vision.
- Coursework: Telecommunications, electronics, scientific computing.

Preparatory Cycle — Mathematics & Physics

IPEIM Monastir

2019 – 2021

Monastir, Tunisia

- Ranked 38th / 1800 at the national competitive entrance exam to engineering schools.

Publications

GRETSI 2025

I. Jaouedi, G. Chardon, J. Picheral. *Fusion Acoustique-Visuelle par Transport Optimal*. XXX^e Colloque Francophone de Traitement du Signal et des Images, Strasbourg, France. [hal-05273990](https://hal.archives-ouvertes.fr/hal-05273990)

IEEE ICASSP 2026

I. Jaouedi, G. Chardon, J. Picheral. *Sensor Array and Camera Fusion via Unbalanced Optimal Transport for 3D Source Localization*. [hal-05572212](https://hal.archives-ouvertes.fr/hal-05572212)

Certifications

Google Cloud 2025

Professional Machine Learning Engineer — Verified on Credly

Skills

Research: Sensor fusion, optimal transport, 4D radar, camera-radar fusion, 3D object detection, uncertainty-aware perception, ADAS

ML & Deep Learning: PyTorch, deep learning, transformers, generative models, computer vision, statistical signal processing

Programming: Python, C++, MATLAB, Bash

Tools & Infrastructure: Docker, FastAPI, ONNX/TensorRT, SLURM, Git, Google Cloud Platform, Vertex AI, BigQuery, Google ADK

Languages: Arabic (native), French (fluent), English (fluent)